

REMARKS

Applicants respectfully request reconsideration of the present application in view of the above amendments and in view of the reasons that follow.

Claims 1, 3-6, 8-13, 16-19, 23, 25-27, and 29 are currently amended. No new matter is added.

I. Claim Rejections under 35 U.S.C. § 102

On page 3-4 of the Office Action, Claims 18-22 and 28 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,854,593 (Dykema).

Claim 18 has been amended to recite “method for training a transceiver to learn a set of signal characteristics of an RF control signal received from a remote control transmitter” comprising, among other elements, “determining a device type associated with the RF control signal without analyzing or determining the frequency of transmission of the received RF control signal.”

With respect to independent Claim 18, the Examiner stated:

Dykema et al. teaches initiating a training sequence (col. 4 lines 27-32);

identifying and storing a control code of the RF control signal (col. 6 lines 14-20, col. 17 lines 15-20);

identifying the data characteristic of the RF control signal (col. 18 lines 15-20) and identifying a frequency based on a data characteristic if the number of rising edges appearing in the received signal over a period of a predetermined time interval (col. 17 lines 1-14).

In the Examiner’s “Response to Arguments” on Page 2 of the Office Action, the Examiner further explains his position:

It is the Examiner’s position that the reference of Dykema et al. teaches identifying a device type as a GENIE device type based on

the number of rising edges detected in 850 μ s time period (col. 20, lines 49-56). Dykema et al. also teaches the frequency of the RF control signal is based on the type of device identified and there is a frequency associated with the identified device type (col. 20, lines 55-64).

In the Advisory Action, the Examiner further stated:

It is the Examiner's position that the reference of Dykema et al. expressly teaches identifying the frequency of the control signal based on the device type (col. 20 lines 55-67, col. 28 line 63-col. 29 line 11). The scanning of the control signal is carried out in order to determine one of the known frequencies of the Genie transceiver (col 29 lines 1-3).

Applicants respectfully traverse the rejection.

Dykema is directed to the use of a voltage-controlled oscillator (VCO) to scan or sweep Dykema's RF circuit to find a frequency of received signals (see Dykema's overview of its training process in col. 16, line 48 – col. 18, line 65). Once the carrier frequency or potential carrier frequency is found via the scanning, the other analysis occurs. For example, Dykema at col. 28, lines 63 – col. 29, line 7 describe the further “GENIE”-type analysis:

the program determines whether the data is GENIE data by looking at the mode bit and the signal tone bit. If the mode bit is equal to 1 and the signal tone flag is not set, the program advances to block 456 where microcontroller 57 sorts the identified carrier frequency of the received activation signal into one of several known GENIE operating frequencies falling within the range of 290-320 MHz at 5 MHz intervals. Thus, for example, if the identified carrier frequency of the received activation signal is between 301 and 304 MHz, microcontroller 57 determines that the carrier frequency to store and subsequently transmit should be the closer of 300 and 305 MHz.

(emphasis added)

Applicants respectfully submit that this text makes clear that the system of Dykema has already identified the carrier frequency of the received activation signal via Dykema's scanning activity before conducting the additional “GENIE”-type analysis.

Accordingly, Dykema does not identically disclose “determining a device type associated with the RF control signal without analyzing or determining the frequency of transmission of the received RF control signal” as recited in amended independent Claim 18 in combination with the other claimed elements and limitations. Claim 18 is patentable over Dykema. Dependent Claims 19-23 and 25-28, which depend from independent Claim 18, are also patentable. See 35 U.S.C. § 112 ¶ 4. The Applicants respectfully request withdrawal of the rejection of Claims 18-23 and 25-28.

II. Claim Rejections – 35 U.S.C. § 103

On page 5 of the Office Action the Examiner rejected claims 1-6, 8-12, 16-17, and 29 as being obvious over Dykema in view of U.S. Pat. No. 6,078,271 to Roddy et al. (“Roddy”) under 35 U.S.C. § 103(a). The Examiner stated:

Regarding claim 1, 8, 10, Dykema et al. teaches a trainable transceiver comprising: ... identifying the RF frequency associated with the control signal based on the determined device type (col. 20 lines 55-67).

The Examiner acknowledged that:

Dykema et al. is silent on teaching the receiver is a wideband receiver.

However, the Examiner stated:

Roddy et al. in an analogous art teaches a wideband receiver (30) coupled to the antenna for receiving a control signal from a remote transmitter (col. 2 lines 41-50).

The Examiner concluded that:

It would have been obvious to one of ordinary skill in the art to modify the system of Dykema et al. to include a wideband receiver as disclosed by Roddy et al. because this allow the transceiver to learn control codes that utilizes a wide range of frequencies and allows the single transceiver to control multiple devices of different manufacturer.

Applicants respectfully traverse the rejections.

A. The Combination of Dykema and Roddy Does Not Disclose, Teach, or Suggest Each and Every Element of the Claimed Invention

Each of independent Claims 1, 10, and 29 include a control circuit or method configured to select or determine an RF frequency associated with a received RF control signal based on a determined device type.

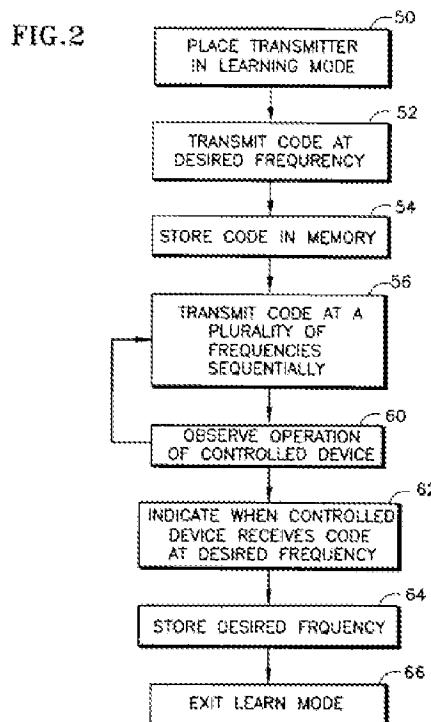
Particularly, Claim 1 recites a trainable transceiver including, among other elements, a control circuit configured “to determine and store a frequency for the subsequent transmissions of the modulated RF signal from the trainable transceiver based on the determined device type.” Claim 10 also recites a trainable transceiver including, among other elements, a control circuit configured “control circuit is configured to use the device type determination to determine the RF frequency for use in subsequent transmissions by the trainable transceiver in an operational mode.” Claim 29 recites a method for training a transceiver including, among other steps, “selecting an RF frequency from a pre-stored list of frequencies based on the determined manufacturer.”

Further, each of independent Claims 1, 10, and 29 specify that the device type is determined without first scanning for or determining the frequency of transmission of the received RF control signal.

Particularly, Claim 1 recites a control circuit configured to “determine a device type associated with the RF control signal without first determining the frequency of transmission of the received RF control signal.” Claim 10 recites a control circuit “coupled to the wideband receiver and having a training mode configured to filter out the carrier frequency of the RF control signal and to analyze the modulation of the RF control signal to determine a device type associated with the remote control transmitter … wherein the determination of the RF frequency occurs without scanning of the receiver.” Claim 29 recites “determining a manufacturer of the device from a pre-stored list of manufacturers based on the at least one data characteristic and without scanning for and determining the carrier frequency of the RF control signal.”

For at least the reasons explained above with respect to independent Claim 18, Applicants respectfully submit that Dykema does not disclose determining an RF frequency associated with a received RF control signal based on a determined device type and determining the device type without scanning for or determining the frequency of transmission of the received RF control signal.

Roddy does not cure Dykema's deficiency. Indeed, Roddy does not attempt to identify a particular frequency of the received RF control signal using a determined device type. See Roddy at col. 3, lines 30-35 ("transmitter 20 received the code with receiver 30.... At this time, the programmable transmitter 20 'knows the code' to be associated with the specific user switch 22, **but not the desired frequency**") (emphasis added). Rather than attempting to determine the manufacturer, or the frequency based on the manufacturer, Roddy teaches transmitting a code at a plurality of frequencies sequentially and waiting for the user to indicate that the garage door has been activated prior to storing a frequency (see Roddy at FIG. 2 (reproduced below) - particularly steps 56-66 and accompanying description).



Because neither Dykema nor Roddy disclose, teach, or suggest the trainable transceivers of amended independent Claims 1 and 10 or the method of Claim 29, Applicants respectfully submit that Claims 1-6, 8-12, 16-17, and 29 are patentable over Dykema and Roddy.

B. Dykema and Roddy Teach Away from the Claimed Invention and Teach Away from a Combination with Each Other

The present invention determines an RF frequency associated with a received RF control signal based on a determined device type.

Both Dykema and Roddy disclose approaches that teach away from the solution of the present invention. In Dykema, RF circuitry is scanned through a range of frequencies to find a carrier frequency of the received RF control signal. In Roddy, the system uses a trial and error algorithm where a user is told to indicate when a target device (e.g., a garage door) activates in response to the transmission of many sequential frequencies.

First, Applicants respectfully submit that a modification of Dykema toward the present invention would change the principal of Dykema's operation. Particularly, Applicants respectfully submit that modifying Dykema to include a wideband receiver and to make a frequency determination based on device type would move away from Dykema's scanning-to-determine frequency principal of operation.

Second, Applicants respectfully submit that Roddy teaches away from the circuitry of the current invention and from a combination with Dykema. Roddy explains that a system which attempts to learn control signal frequency and control data during programming “requires very sophisticated electronics for finding and then reproducing the frequency of the learned signal” and that “the circuitry and operating methods currently used in universal RF transmitters are quite complex” (Roddy at col. 1, lines 22-28). Roddy teaches replacing the complexity it criticizes for its user observation and feedback system. Applicants respectfully submit that

Dykema is the type of universal RF transmitter that Roddy discredits and that Roddy teaches away from a combination with Dykema.

For at least these reasons, Applicants respectfully submit that the combination of Dykema and Roddy is improper and that Claims 1-6, 8-12, 16-17, and 29 are patentable over Dykema and Roddy.

On page 7 of the Office Action the Examiner rejected claims 7 and 15 as being obvious over Dykema in view of Roddy and further in view of U.S. Pat. No. 6,556,813 to Tsui (“Tsui”) under 35 U.S.C. § 103(a).

Dependent Claims 7 and 15, which depend from independent Claims 1 and 10, are also patentable over Dykema and Roddy for at least the same reasons as explained above with respect to Claims 1 and 10. Tsui does not cure the deficiencies noted above with respect to Dykema and Roddy. Thus, Claims 7 and 15 are also patentable.

On page 8 of the Office Action the Examiner rejected claim 23 as being obvious over Dykema in view of Tsui under 35 U.S.C. § 103(a).

Dependent Claim 23 depends from independent Claim 18 and is patentable over Dykema for at least the same reasons as explained above with respect to Claim 18. Tsui does not cure the deficiencies noted above with respect to Dykema.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of

papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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